Additional Comments
Worksheets 9, 10, 11, 17, and 18 plus SOPs
Draft High Volume Chemical Water Column Monitoring QAPP

No.	Worksheet No./ Page No.	Specific Comments
1	Worksheet #11 Page 2	Second bullet under the question "What types of data are needed?": Language should be added to describe how the total volume of water processed will be measured and recorded for later use in these calculations.
2	Worksheet #11 Page 3	Under the question "Where, when and how should the data be collected/generated?": Methods and calculation procedures to develop the partition coefficients should be described in this worksheet. How will the coefficients be calculated for each sampling event?
3	Worksheet #17 Page 1	Figure 1 not included.
4	Worksheet #17 Page 2	Second paragraph, second sentence: This could be an important variable. The flow rate will change as the filter captures sediments (causing back-pressure and reduced flows) and with changing tide (head, and therefore, flow rate, will change assuming the mid-water column level is continuously adjusted throughout the sampling duration). Flow rate should either be measured continuously and integrated to get volume, or at specific and reasonably frequent intervals. Also, depending upon the measurement method, there will be variability in the flow measurements that will be mitigated, to some extent, by more frequent measurements that are either averaged or "blended" by plotting a flow-rate curve for the event.

USEPA's specific comment no. 14 consists of a request for the organic analytical SOPs; however, to expand upon our request, the comments listed below provide further guidance on the elements that the SOP should explicitly address

No.	Worksheet No./ Page No.	Specific Comments

5	SOPs	An analytical SOP for Dioxins/Furans should be added that includes, but is not limited to: a. Descriptions of any necessary adjustments or modifications to carbon labeled spiking mixtures. Laboratory bench spiking protocols should be explicitly defined. b. Detailed holding time and storage temperature requirements in addition to any specific storage practices. c. Comprehensive details regarding the handling of particulate phase samples including quantitative transfers, sub-sampling and hydromatrix addition. d. A procedure for using two serial PUFs or explanation of how potential breakthrough analytes will be addressed in the sampling system if using only a single PUF. If a single PUF is used, then a stepwise plan of approach for analysis of congener PCBs and dioxins/furans must be included. e. The extraction method of congener PCBs and dioxins/furans from particulate samples. If extracted as a single aliquot, then the stepwise extraction and analysis procedures must be included. f. Detailed explanations of exactly how results for particulate and dissolved phase analyte concentrations will be calculated based upon other measurements such as total volume of water collected and SSC.
6	SOPs	An analytical SOP for Congener PCBs should be added that includes, but is not limited to: a. Descriptions of any necessary adjustments to analytical carbon labeled spike mixtures. For instance, example standards included in new high volume specific mixtures must be removed from the "extraction standard." Additionally, bench/field spiking protocols must be included. b. Explicit details concerning the creation of multi-component samples. Any project specific procedures must also be included in a stepwise SOP. c. Detailed holding time and storage temperature requirements in addition to any specific storage practices. d. Comprehensive details regarding the handling of particulate phase samples including quantitative transfers, sub-sampling and hydromatrix addition. e. A procedure for using two serial PUFs or explanation of how potential breakthrough analytes will be addressed in the sampling system if using only a single PUF. If a single PUF is used, then a stepwise plan of approach for analysis of congener PCBs and dioxins/furans must be included. f. The extraction method of congener PCBs and dioxins/furans from particulate samples. If extracted as a single aliquot, then the stepwise extraction and analysis procedures must be included. g. Detailed explanations of exactly how results for particulate and dissolved phase analyte concentrations will be calculated based upon other measurements such as total volume of water collected and SSC.
9	SOPs	An analytical SOP for Particulate Carbon in Water by Combustion/Thermo-Conductivity or Infrared Detection that includes, but is not limited to: a. Delineated determinative steps for sample preparation and analysis.

Additional Comments Based on May 10, 2012 Gravity Equipment Demonstration

10	EPA requests that the CPG continue Performance Evaluation (PE) sample analyses following QAPP review and during actual field sample collection. EPA also requests the results of Analytical Perspectives' MDL study for these analyses, if such studies have been completed.
11	The system must be cleaned as it would be in the field and an equipment blank re-run to demonstrate

	that the system can be successfully cleaned and that the PUF, for example, does not have trace levels of PCBs inherent in the manufacturing process. At a minimum, another pre-program rinse blank needs to be run and rinse blanks must be taken between events to prove that the system is properly cleaned between sampling stations. Each rinse blank must be processed using sufficient volume of de-ionized water and pumping time/rates to mimic sample collection processing parameters to ensure contaminant contact times match those during sample collection.
12	Amendment to EPA's specific comment no. 12.: The requested sampling SOP should also address evaluation and calibration of the pumping rates in the lines to the Gravity device and the carboy for SSC sampling. Is the flow rate through the PR-2900 identical to the flow rate through the LISST and into the container from which the POC, DOC, and SSC measurements are taken? While a slight difference might be acceptable for a brief sampling interval, over the space of several hours, this could be significant. a. Has CPG/Gravity evaluated the flow-rates in the two lines? b. Has CPG/Gravity calibrated the flow-rates in the two lines? If so, please provide the data (include number and duration of tests, plus description of method – presumably what we observed at the Demonstration).
13	During the field demonstration, we observed that multiple flat fibers were used. How are the number of flat glass fiber filters going to be handled to minimize the blank contamination?
14	What is the impact on the PUF if there is breakthrough of the filter? Has the impact of larger particles on/in the PUF been evaluated? What is the pore size of the PUF media relative to the 0.7um filter? Could the PUF media pore size be greater than 0.7 um such that HOCs adsorbed on particulates less than 0.7 um may pass through the PUF and not be quantified? This could potentially impact the establishment of partition coefficients.